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Owner's Manual

SmartRack™ Enclosure with Zone 4 Seismic Rating

Model: SR42UBZ4

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Important Safety Instructions

SAVE THESE INSTRUCTIONS

All sections of this manual contain instructions and warnings that should be followed during the installation and use of the SmartRack Enclosures described in this manual. Read all instructions and warnings thoroughly before attempting to move, install or use the SmartRack Enclosures described in this manual. Failure to comply will create a risk of personal injury and property damage and may affect the warranty.

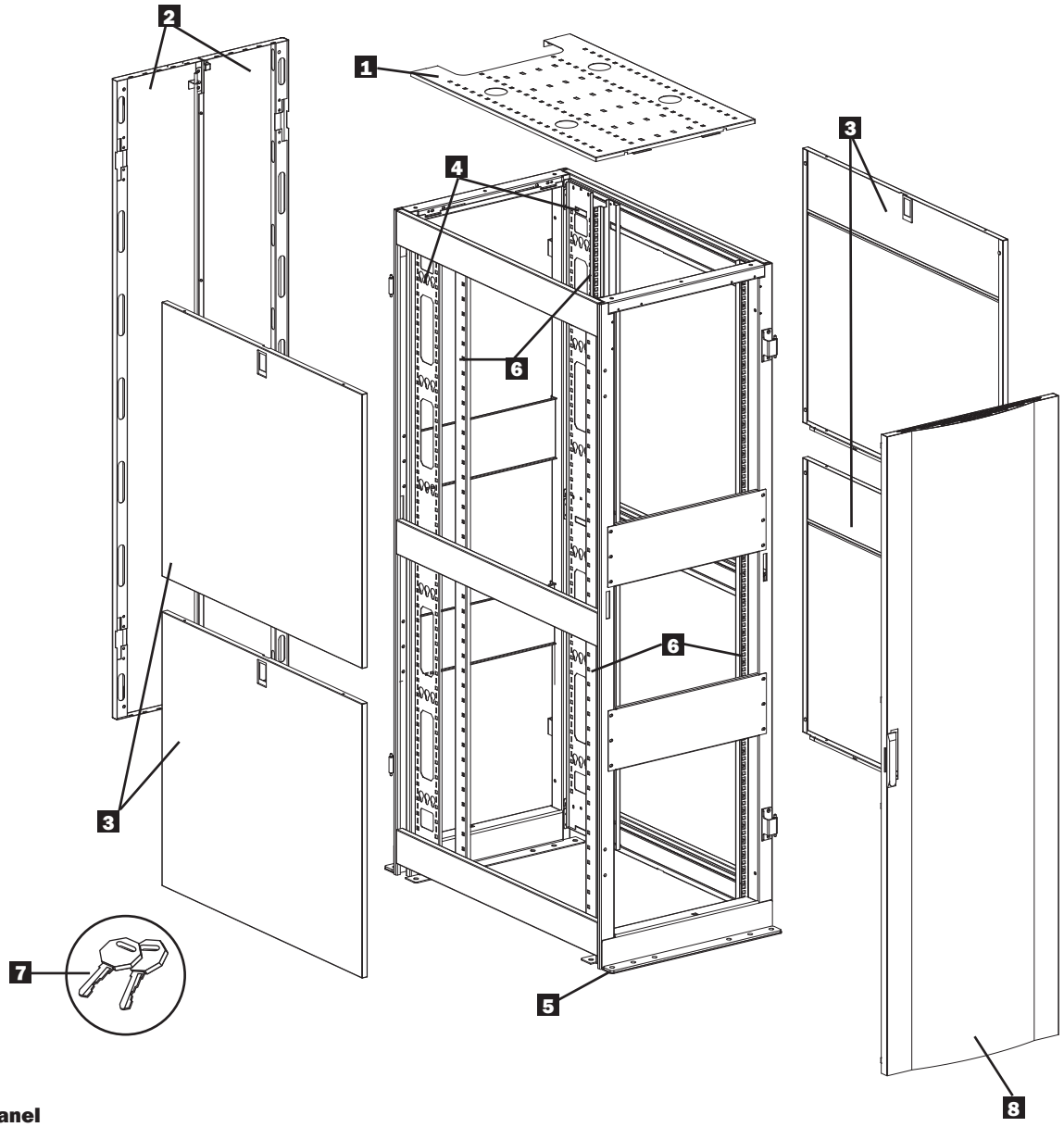
- Keep the enclosure in a controlled indoor environment, away from moisture, temperature extremes, flammable liquids and gasses, conductive contaminants, dust and direct sunlight.
- Leave adequate space at the front and rear of the enclosure for proper ventilation. Do not block, cover or insert objects into the external ventilation openings of the enclosure.
- The enclosure is extremely heavy. Use caution when handling the enclosure. Do not attempt to unpack, move or install it unassisted. Use a mechanical device such as a forklift or pallet jack to move the enclosure in the shipping container.
- Do not place any object on the enclosure, especially containers of liquid, and do not attempt to stack the enclosures.
- Inspect the shipping container and the enclosure for shipping damage. Do not use the enclosure if it is damaged.
- Leave the enclosure in the shipping container until it has been moved as close to the final installation location as possible.
- Install the enclosure in a structurally sound area with a level floor that is able to bear the weight of the enclosure, all equipment that will be installed in the enclosure and any other enclosures and/or equipment that will be installed nearby.
- Do not push the enclosure from the side panels to move it. Pushing from the side panels will cause a tipping hazard.
- Use caution when cutting packing materials. The enclosure could be scratched, causing damage not covered by the warranty.
- Save all packing materials for later use. Repacking and shipping the enclosure without the original packing materials may cause product damage that will void the warranty.
- Do not re-ship the enclosure with additional equipment unless the enclosure was shipped with a special shock pallet (“SP1” and “SP2” models only). The combined weight of the enclosure and installed equipment must not exceed the load capacity of the pallet. Tripp Lite is not responsible for any damage that occurs during re-shipment.
- Use of this equipment in life support applications where failure of this equipment can reasonably be expected to cause the failure of the life support equipment or to significantly affect its safety or effectiveness is not recommended. Do not use this equipment in the presence of a flammable anesthetic mixture with air, oxygen or nitrous oxide.

Overview

SmartRack Enclosures accommodate all standard 19-inch rackmount equipment, regardless of vendor, and ship fully assembled for quick and easy deployment. They feature adaptable heavy duty cabinets with variable mounting depths, making them ideal for servers. The cabinets include quick release doors and side panels for convenient maintenance. Front and rear doors and side panels are lockable.

The SR42UBZ4 is designed for use in earthquake zones. The enclosure features a welded construction, providing more security for use in unstable environments. Reinforcing Zone 4 Seismic Brackets offer enhanced stability and protection with a Zone 4 seismic rating.

Feature Identification



1 Roof Panel
2 Locking Split Rear Doors
3 Locking Side Panels
4 Cable Management Rails
5 Zone 4 Seismic Brackets
6 Mounting Rails (Provide horizontal and vertical mounting points for equipment.)
7 Keys (One for the doors and one for the side panels.)
8 Locking Reversible Front Door

Not Shown: Mounting hardware, documentation and other shipping materials.

Enclosure Installation

Caution! Read All Instructions and Warnings Before Installation!

WARNING: The rack enclosure is extremely heavy. Do not attempt to unpack, move or install the enclosure without assistance. Until it has been properly installed and stabilized, the enclosure is prone to tipping and could cause property damage and/or personal injury. Use extreme caution when handling the enclosure and be sure to follow all handling and installation instructions. Do not attempt to install equipment without first stabilizing the enclosure.

Preparation

The enclosure must be installed in a structurally sound area with a level floor that is able to bear the weight of the enclosure, all the equipment that will be installed in the enclosure and any other enclosures and/or equipment that will be installed nearby. Before unpacking the enclosure, you should transport the shipping container closer to the final installation location to minimize the distance you will need to move the unit after the protective packaging has been removed. If you plan to store the enclosure for an extended period before installation, follow the instructions in the **Storage and Service** section.

You need several tools (user-supplied):

- 13 mm Open-end Wrench
- Utility Blade
- Carpenter's Level
- Phillips-head Screwdriver

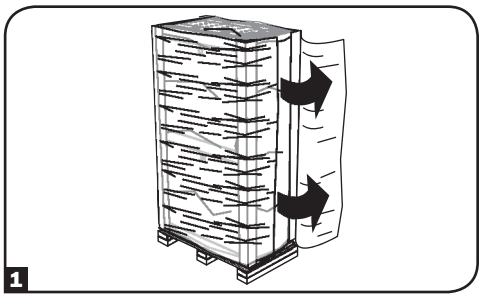
You also need the following hardware (included):

- (50) Phillips-head Mounting Screws (M6 x 5/8")
- (50) Cage Nuts (M6)
- (50) Nylon Cup Washers

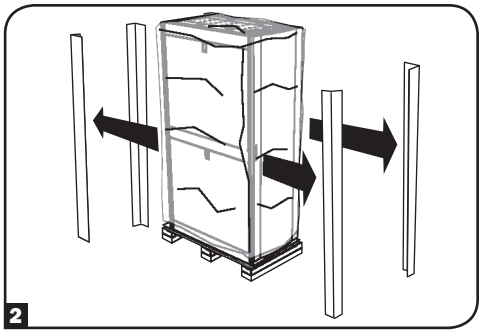
Unpacking

NOTE: The enclosure should be moved as close to the desired installation location as possible before it is unpacked from the shipping container. Use a forklift or pallet jack to move the shipping container.

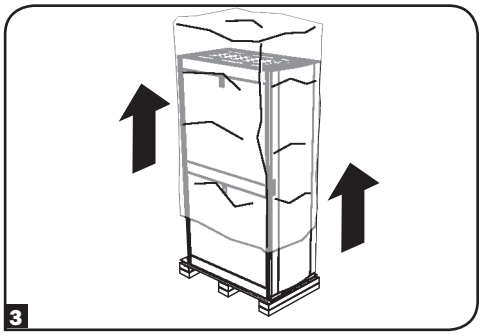
1 Confirm that the shipping container is upright and stable, then use a utility blade to cut the shrink-wrap securing the corner protectors. Apply the utility blade directly over the corner protectors to prevent the utility blade from scratching the enclosure or cutting the heavy protective plastic bag beneath the shrink-wrap. **WARNING: Do not scratch the enclosure or cut the heavy plastic bag beneath the shrink-wrap. Do not push or pull the enclosure while unpacking.**



2 Remove the corner protectors. Save all packing materials (including the pallet) for later use unless you are certain they will not be required. The packing materials are recyclable.

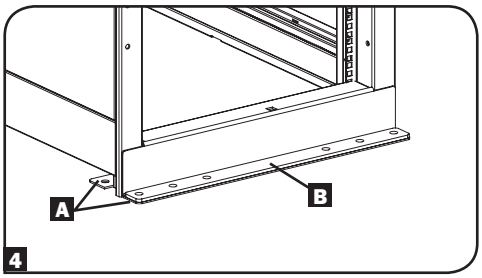


3 Remove the heavy plastic bag surrounding the enclosure. Examine the enclosure for any damage or loose parts. Confirm that all parts are present. If anything is missing or damaged, contact Tripp Lite for assistance. Do not attempt to use the enclosure if it has been damaged.

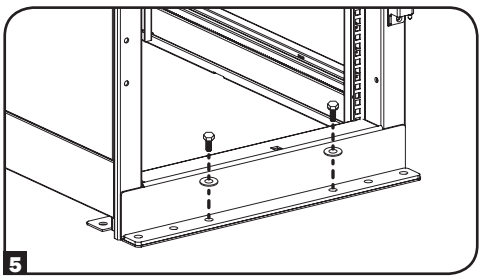


Enclosure Installation

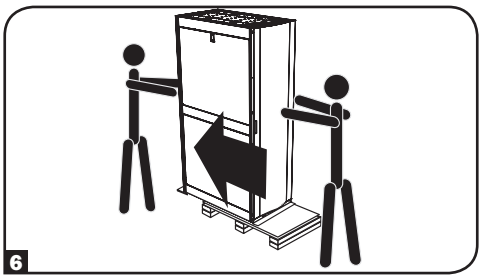
4 Use the key to open the enclosure's doors and locate the base Zone 4 Seismic Brackets **A** and reinforcing brackets **B** that are bolted into the shipping pallet. *Note: The keys are shipped in the accessory carton that comes attached to the side panel carton.*



5 Use a 13 mm open-end wrench to remove the bolts attaching the enclosure to the shipping pallet. Be extremely careful, as the enclosure could shift unexpectedly after bolt removal. Save the reinforcing brackets and bracket hardware for later use.



6 Position at least one person at the front of the enclosure and one person at the rear of the enclosure. Carefully lift the enclosure from the pallet and place it in the desired location. **WARNING: Use at least one assistant when removing the enclosure from the pallet. Be extremely careful when moving the enclosure.**

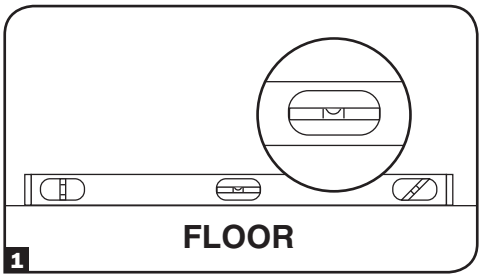


If required, the enclosure can be lifted by attaching 4 user-supplied M8 diameter eye bolts to the threaded holes near the upper corners of the enclosure frame. Use steel bolts with an ISO strength rating of 8.8 or higher. The 4 bolts can support the weight of the enclosure and up to 1000 lb (450 kg) of installed equipment. **WARNING: Only experienced equipment operators should attempt to lift the enclosure. Use appropriate equipment and follow all applicable safety procedures and regulations.**

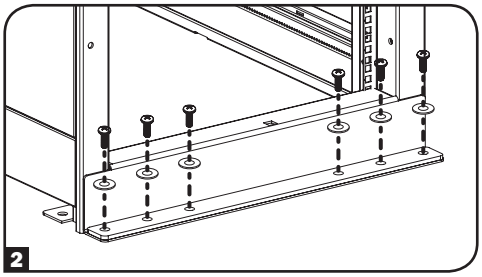
Placement

Note: Proper anchoring hardware should already be in place before starting this procedure.

1 Use a carpenter's level to check the slope of the floor in the desired location. If the floor slopes more than 1%, choose an alternate installation site.

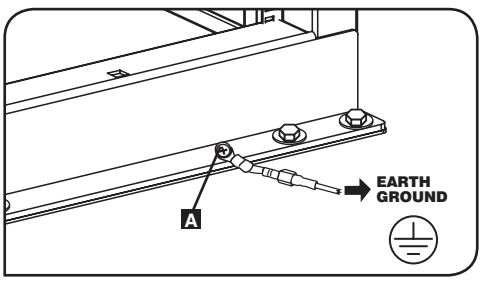


2 Using M8 hardware (user-supplied), secure the base of the enclosure and the Zone 4 Seismic Brackets into pre-installed anchoring hardware in the floor. Tighten the hardware using a torque wrench.



Ground Connection

All the parts of the enclosure are grounded to the frame of the enclosure. Connect the frame of the enclosure directly to your facility's earth ground connection using an 8 AWG (3.264 mm) wire and one of the pieces of hardware **A** used to secure the enclosure to the floor. Remove one of pieces of hardware to connect the grounding wire and then re-fasten the hardware to secure the connection. **WARNING: Attach each enclosure to earth ground separately. Do not use the enclosure without an earth ground connection.**



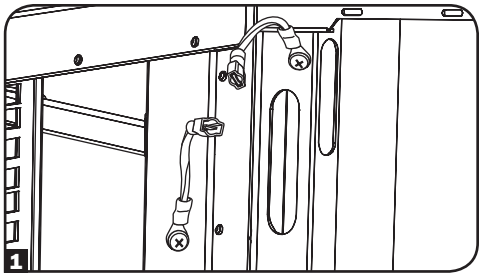
Enclosure Configuration

Adding or Removing Front and Rear Doors

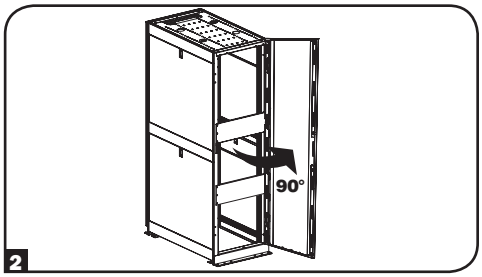
WARNING: Do not attempt to add or remove doors without assistance.

Removing Door

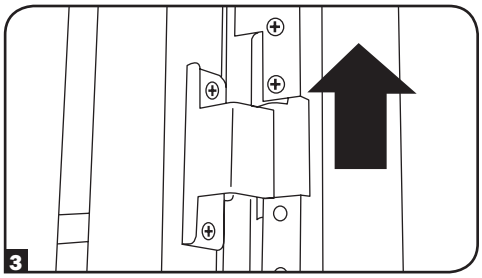
1 Disconnect the door's ground wire.



2 Open the door until it is perpendicular (90 degrees) to the front of the enclosure.



3 Lift the door from the hinges and remove it from the enclosure.



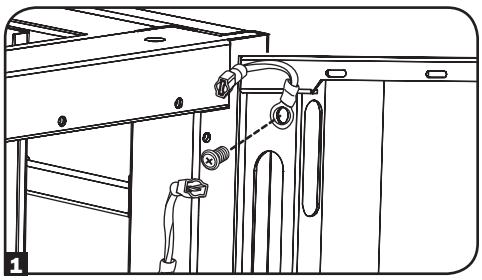
To Reinstall Door, Reverse Steps 1-3

(Optional) If the enclosure is joined to another enclosure, turn the door back toward the enclosure as you lift it from the hinges.

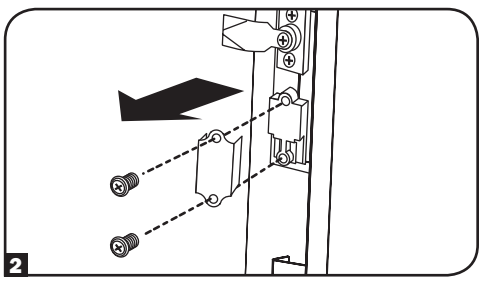
Reversing Front Door

WARNING: Do not attempt to reverse the front door without assistance.

1 Remove the screw connecting the ground wire to the inside of the door.

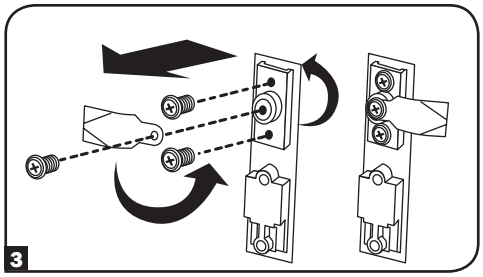


2 Remove the 2 screws connecting the door handle to the door. Remove the door handle.

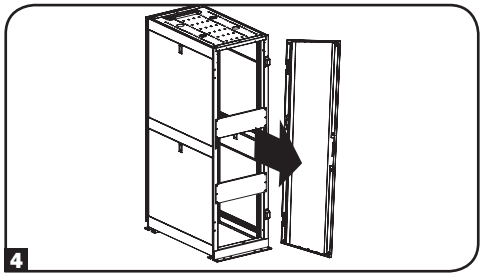


Enclosure Configuration

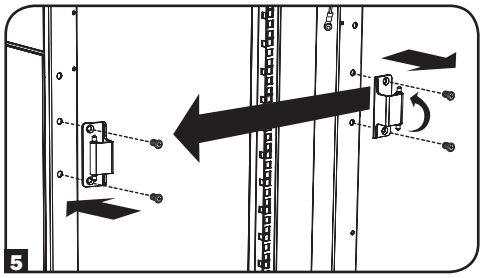
3 Remove the screw and washer from the rear of the door handle and remove the latching mechanism. Rotate the latch washer counter-clockwise 90 degrees and reverse the latch so it points in the opposite direction, then use the screw and washer to re-attach the latch to the rear of the door handle.



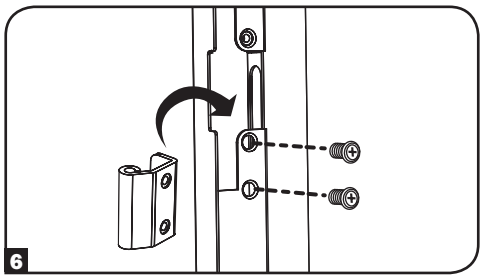
4 Remove the door by following the steps in the previous section.



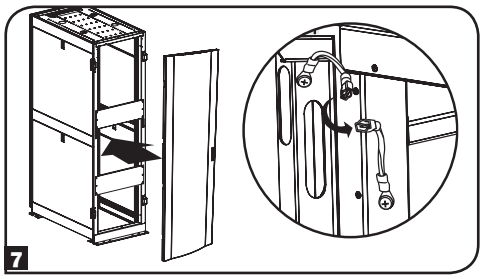
5 Remove the door hinges from the enclosure, rotate them 180 degrees and attach them on the opposite side of the enclosure. *Note: The alternate door hinge attachment points have plastic plugs in the screw holes. Remove the plugs and insert them in the original door hinge attachment points.*



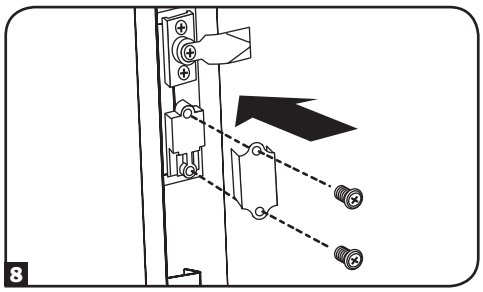
6 Unscrew the 2 hinge mechanisms from the hinge openings inside the door, then reattach each of them using the set of screw holes immediately opposite their original position.



7 Rotate the door 180 degrees and reinstall it on the enclosure. Remember to connect the ground wire to the inside of the door, using the attachment point nearest the hinge at the top of the door. The attachment point is marked with the ground connection symbol: ⏚.



8 Reinstall the door handle.



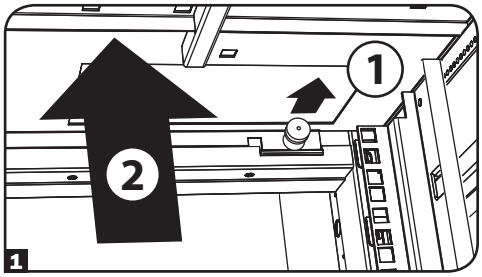
Enclosure Configuration

Adding or Removing Roof Panel

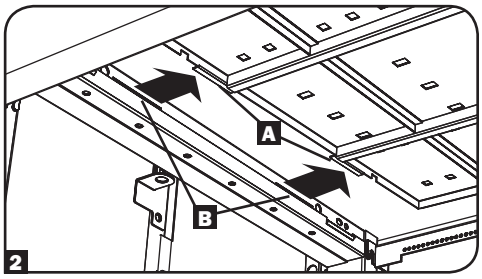
WARNING: Do not attempt to use the roof panel for weight-bearing purposes other than those explicitly described and approved by Tripp Lite. Do not attempt to add or remove the roof panel without assistance.

Removing Roof Panel

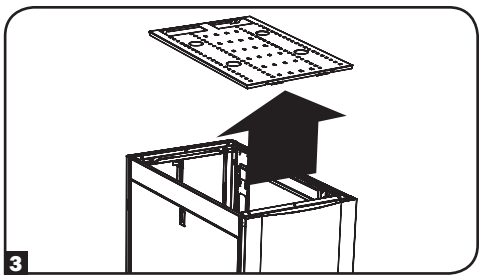
1 Pull the 2 pins near the rear of the roof panel. While holding the pins, push the roof panel upward.



2 Remove the roof panel tabs **A** from the roof panel attachment slots **B** in the enclosure frame.



3 Lift the roof panel from the enclosure.

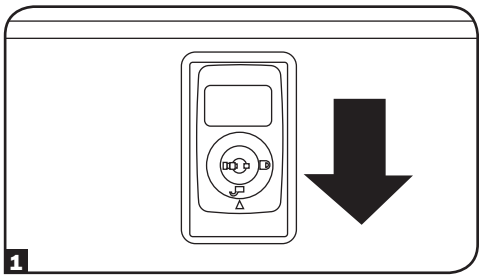


To Reinstall Roof Panel, Reverse Steps 1-3

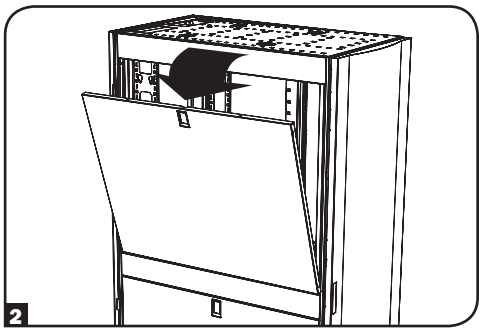
Adding or Removing Side Panels

Removing Side Panel

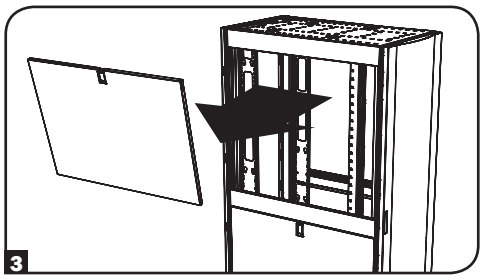
1 Open the latch by sliding it downward.



2 Tilt the top of the panel away from the enclosure.



3 Lift the panel away from the brace that supports it.



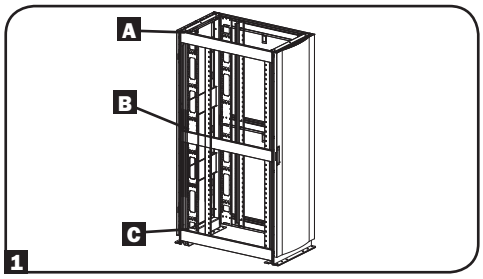
To Reinstall Side Panel, Reverse Steps 1-3

Adjusting Mounting Rails and Cable Management Rails

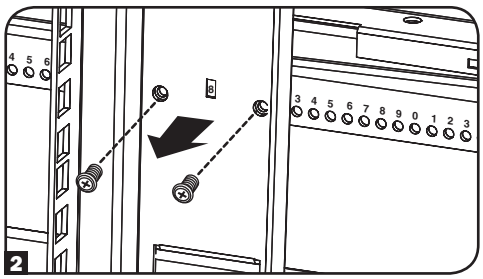
WARNING: Do not attempt to adjust rails without assistance. Do not attempt to adjust rails while equipment is installed in the enclosure. Do not attempt to use rails without screws installed (6 per rail).

The 4 mounting rails are pre-installed to accommodate equipment with a mounting depth of 30 inches (762 mm). Do not adjust the mounting rails unless your equipment requires a different mounting depth. The front and rear sets of rails can be adjusted independently in ¼-inch (6 mm) increments for mounting depths between 4 inches (101.6 mm) and 42 inches (1066.8 mm).

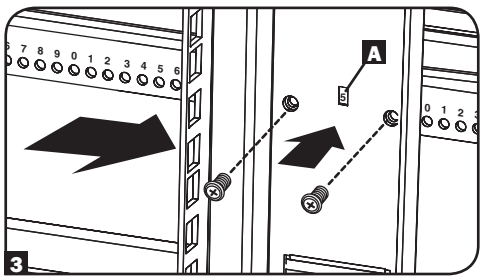
1 Each rail is connected to the enclosure with 6 screws - 1 pair at the upper beam **A** , 1 pair at the middle beam **B** and 1 pair at the lower beam **C** .



2 Remove the screws fastening each of the rear mounting rails to the enclosure. (If adjustment of the front rails is required, you can also remove the screws from the front rails.)



3 Slide the mounting rails to the desired depth and reattach them using the screws you removed in Step 2. The rail attachment points are numbered **A** to help you align each pair of rails at the same depth.

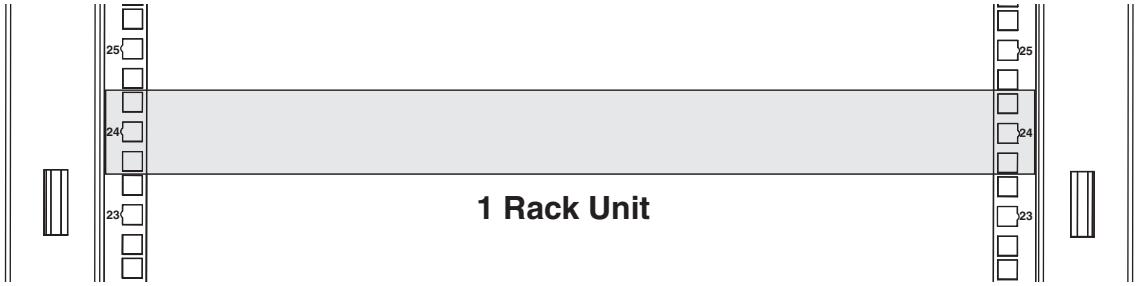


The depth of the 2 cable management rails can be adjusted using the same method.

Equipment Installation

WARNING: Do not install equipment until you have stabilized the enclosure. Install heavier equipment first and install it toward the bottom of the enclosure. Install equipment starting from the bottom of the enclosure and proceeding toward the top of the enclosure - never the reverse. If using sliding equipment rails, be careful when extending the rails. Do not extend more than one set of sliding equipment rails at one time. Avoid extending sliding equipment rails near the top of the enclosure.

Note: The square holes at the middle of each rack unit are numbered and also include a small notch to aid identification. A single rack unit includes the space occupied by the numbered hole and the holes directly above and below.

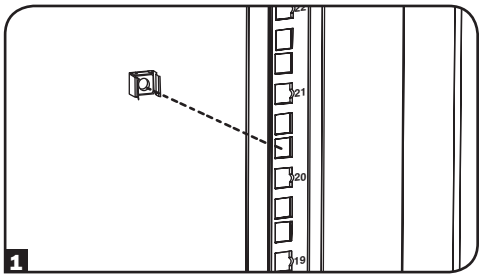


Installing or Removing Cage Nuts

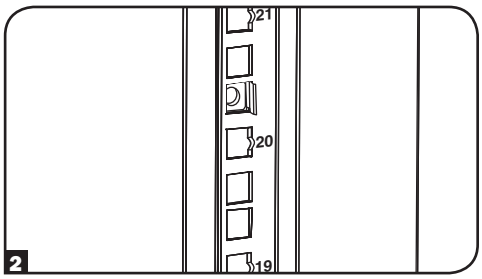
WARNING: The flanges of the cage nuts should engage the sides of the square opening in the rail, not the top and bottom. Follow the instructions in your equipment documentation to ensure proper installation of your equipment.

Installing Cage Nuts

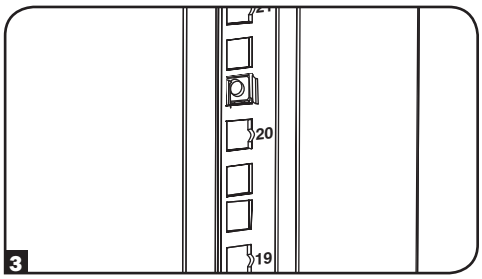
1 Locate the numbered square openings in the mounting rails where you plan to install your equipment. You will install cage nuts (included) into the square openings in order to provide an attachment point for the mounting screws (included). *Note: Consult your equipment documentation to determine how many cage nuts will be required and where they will need to be installed.*



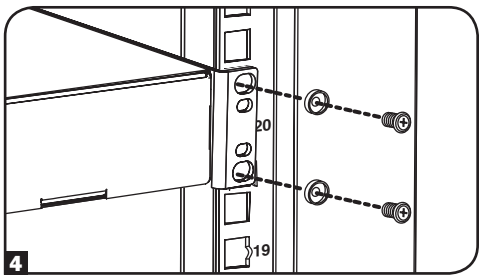
2 From the inside of the mounting rail, insert one of the flanges of the cage nut through the square opening. Press it against the side of the square opening. Each flange should engage one side of the square opening, not the top or bottom.



3 Compress the cage nut at the sides slightly to allow the remaining flange to fit through the square opening. When the cage nut is properly installed, both flanges will protrude through the square opening and will be visible on the outer surface of the mounting rail. Repeat steps 1-3 until all required cage nuts are installed.



4 After installing the required cage nuts, use the included mounting screws and cup washers to secure your equipment to the rack rail. Place the cup washers between the screws and the equipment mounting brackets. *Note: Your equipment may also include mounting hardware. Read the mounting instructions that came with your equipment before installing your equipment.*



To Remove Cage Nuts, Reverse Steps 1-3

Note: You may wish to use a cage nut tool (user-supplied) to aid cage nut installation and removal.

Specifications

	Load Rating		Unit Dimensions				Shipping Dimensions			
Model	Static	Rolling	Height	Width	Depth	Weight	Height	Width	Depth	Weight
SR42UBZ4	3000 lb (1361 kg)	2250 lb (1021 kg)	78.5 in (1994 mm)	23.63 in (600 mm)	43 in (1093 mm)	353 lb (161 kg)	85 in (2159 mm)	26 in (661 mm)	45 in (1143 mm)	395 lb (179 kg)

Storage and Service

Storage

The enclosure should be stored in a controlled indoor environment, away from moisture, temperature extremes, flammable liquids and gasses, conductive contaminants, dust and direct sunlight. Store the enclosure in its original shipping container if possible.

Service

Your Tripp Lite product is covered by the warranty described in this manual. A variety of Extended Warranty and On-Site Service Programs are also available from Tripp Lite. For more information on service, visit www.tripplite.com/support. Before returning your product for service, follow these steps:

1. Review the installation and operation procedures in this manual to insure that the service problem does not originate from a misreading of the instructions.
2. If the problem continues, do not contact or return the product to the dealer. Instead, visit www.tripplite.com/support.
3. If the problem requires service, visit www.tripplite.com/support and click the Product Returns link. From here you can request a Returned Material Authorization (RMA) number, which is required for service. This simple on-line form will ask for your unit's model and serial numbers, along with other general purchaser information. The RMA number, along with shipping instructions will be emailed to you. Any damages (direct, indirect, special or consequential) to the product incurred during shipment to Tripp Lite or an authorized Tripp Lite service center is not covered under warranty. Products shipped to Tripp Lite or an authorized Tripp Lite service center must have transportation charges prepaid. Mark the RMA number on the outside of the package. If the product is within its warranty period, enclose a copy of your sales receipt. Return the product for service using an insured carrier to the address given to you when you request the RMA.

Warranty and Warranty Registration

5-Year Limited Warranty

Seller warrants this product, if used in accordance with all applicable instructions, to be free from original defects in material and workmanship for a period of 5 years from the date of initial purchase. If the product should prove defective in material or workmanship within that period, Seller will repair or replace the product, in its sole discretion.

THIS WARRANTY DOES NOT APPLY TO NORMAL WEAR OR TO DAMAGE RESULTING FROM ACCIDENT, MISUSE, ABUSE OR NEGLECT. SELLER MAKES NO EXPRESS WARRANTIES OTHER THAN THE WARRANTY EXPRESSLY SET FORTH HEREIN. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ALL IMPLIED WARRANTIES, INCLUDING ALL WARRANTIES OF MERCHANTABILITY OR FITNESS, ARE LIMITED IN DURATION TO THE WARRANTY PERIOD SET FORTH ABOVE; AND THIS WARRANTY EXPRESSLY EXCLUDES ALL INCIDENTAL AND CONSEQUENTIAL DAMAGES. (Some states do not allow limitations on how long an implied warranty lasts, and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from jurisdiction to jurisdiction).

WARNING: The individual user should take care to determine prior to use whether this device is suitable, adequate or safe for the use intended. Since individual applications are subject to great variation, the manufacturer makes no representation or warranty as to the suitability or fitness of these devices for any specific application.

Warranty Registration

Visit www.tripplite.com/warranty today to register the warranty for your new Tripp Lite product. You'll be automatically entered into a drawing for a chance to win a FREE Tripp Lite product!*

* No purchase necessary. Void where prohibited. Some restrictions apply. See Web site for details.

Tripp Lite follows a policy of continuous improvement. Product specifications are subject to change without notice.

Note on Labeling
This symbol is used on the product: ⏚ Ground Connection

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